What is claimed is:

1. An admixture of human renal cells comprising a first cell population, B2, and a second cell population, wherein B2 comprises an isolated, enriched population of tubular cells and wherein the second cell population comprises erythropoietin (EPO)-producing cells, glomerular cells and vascular cells.

2. The admixture of claim **1**, wherein B2 further comprises collecting duct epithelial cells.

3. The admixture of claim **1**, wherein the B2 cell population has a density between about 1.045 g/mL and about 1.052 g/mL.

4. The admixture of claim **1**, wherein the second cell population is a B4 cell population.

5. The admixture of claim **3**, wherein the B4 cell population has a density between about 1.063 g/mL and about 1.091 g/mL.

6. The admixture of claim **1**, wherein the second cell population is a B3 cell population.

7. The admixture of claim **4**, wherein the B3 cell population has a density of between about 1.052 g/ml and about 1.063 g/ml.

8. The admixture of claim **1**, wherein the admixture does not include a B1 cell population comprising large granular cells of the collecting duct and tubular system having a density of <~1.045 g/ml.

9. The admixture of claim **1**, wherein the admixture does not include a B5 cell population comprising debris and small cells of low granularity and viability with a density >~1.091 g/ml.

10. The admixture of cells is capable of receptor-mediated albumin uptake.

11. The admixture of claim **1**, wherein the admixture of cells is capable of oxygen-tunable erythropoietin (EPO) expression.

12. The admixture of claim **1**, wherein the admixture contains HAS-2-expressing cells capable of producing and/or stimulating the production of high-molecular weight species of hyaluronic acid (HA) both in vitro and in vivo.

13. The admixture of claim **1**, wherein the admixture is capable of providing a regenerative stimulus upon in vivo delivery.

14. The admixture of claim **1**, wherein the admixture is capable of reducing the decline of, stabilizing, or improving glomerular filtration, tubular resorption, urine production, and/or endocrine function upon in vivo delivery.

15. The admixture of claim **1**, wherein the first and second cell populations are derived from kidney tissue or cultured kidney cells.

16. The admixture of claim **1**, wherein B2 is characterized by expression of a tubular cell marker selected from the group consisting of megalin, cubilin, hyaluronic acid synthase 2 (HAS2), Vitamin D3 25-Hydroxylase (CYP2D25), N-cadherin (Ncad), E-cadherin (Ecad), Aquaporin-1 (Aqp1), Aquaporin-2 (Aqp2), RAB17, member RAS oncogene family (Rab17), GATA binding protein 3 (Gata3), FXYD domain-containing ion transport regulator 4 (Fxyd4), solute carrier family 9 (sodium/hydrogen exchanger), member 4 (S1c9a4), aldehyde dehydrogenase 3 family, member B1 (Aldh3b1), aldehyde dehydrogenase 1 family, member A3 (Aldh1a3), and Calpain-8 (Capn8).

17. An isolated, enriched population of human renal cells comprising a B2 cell population, wherein B2 comprises an isolated, enriched population of tubular cells.

18. The B2 cell population of claim **1**, wherein the B2 cell population is capable of producing and/or stimulating production of a high-molecular weight species of hyaluronic acid (HA) both in vitro and in vivo, via expression of HAS-2 (hyaluronic synthase-2).

19. The B2 cell population of claim **17**, further comprising collecting duct epithelial cells.

20. The B2 cell population of claim **17**, having a density between about 1.045 g/mL and about 1.052 g/mL.

21. The B2 cell population of claim **17**, which is capable of receptor-mediated albumin uptake.

22. The B2 cell population of claim **17**, which is capable of providing a regenerative stimulus upon in vivo delivery.

23. The B2 cell population of claim **17**, which is capable of reducing the decline of, stabilizing, or improving glomerular filtration, tubular resorption, urine production, and/or endocrine function upon in vivo delivery.

24. The B2 cell population of claim **17**, which is derived from kidney tissue or cultured kidney cells.

25. The B2 cell population of claim **17**, characterized by expression of a tubular cell marker selected from the group consisting of megalin, cubilin, hyaluronic acid synthase 2 (HAS2), Vitamin D3 25-Hydroxylase (CYP2D25), N-cadherin (Ncad), E-cadherin (Ecad), Aquaporin-1 (Aqp1), Aquaporin-2 (Aqp2), RAB17, member RAS oncogene family (Rab17), GATA binding protein 3 (Gata3), FXYD domain-containing ion transport regulator 4 (Fxyd4), solute carrier family 9 (sodium/hydrogen exchanger), member 4 (S1c9a4), aldehyde dehydrogenase 3 family, member B1 (Aldh3b1), aldehyde dehydrogenase 1 family, member A3 (Aldh1a3), and Calpain-8 (Capn8).

26. The B2 cell population of claim **17** that does not include a B1 cell population comprising large granular cells of the collecting duct and tubular system having a density of <~1.045 g/ml.

27. The B2 cell population of claim **17** that does not include the B3 cell population comprising erythropoietin (EPO)-producing cells, glomerular cells and vascular cells having a density of between about 1.052 g/ml and about 1.063 g/ml.

28. The B2 cell population of claim **17** that does not include the B4 cell population comprising erythropoietin (EPO)-producing cells, glomerular cells and vascular cells having a density between about 1.063 g/mL and about 1.091 g/mL.

29. The B2 cell population of claim **17** that does not include a B5 cell population comprising debris and small cells of low granularity and viability with a density >~1.091 g/ml.

30. A method of preparing a human B2 cell population, comprising

a) exposing a cell suspension comprising a non-enriched, heterogeneous kidney cell population to hypoxic culture conditions; and

b) extracting a first cell fraction comprising the B2 cell population.

31. The method of 30 wherein the B2 cell population comprises a greater proportion of tubular cells, and lesser proportions of EPO producing cells, glomerular cells and vascular cells when compared to the non-enriched cell population.

32. The method of claim **30**, further comprising a step between step a) and step b), comprising contacting the cell suspension with a density gradient to separate one or more cell fractions, wherein the first cell fraction is present in the gradient after centrifugation at a specific density between about 1.045 g/mL and about 1.052 g/mL.